

**STATE OF NEW HAMPSHIRE
INTER-DEPARTMENT COMMUNICATION**

FROM: *SEL* Sarah Large
Wetlands Program Analyst

DATE: August 17, 2018

AT (OFFICE): Department of
Transportation

SUBJECT Shoreland Permit
Warren, 41738

Bureau of
Environment

TO Calvin Diessner
NH Department of Environmental Services
Wetlands Bureau Shoreland Program
29 Hazen Drive
Concord, NH 03302-0095

Forwarded herewith is the permit application package for the subject NHDOT project. This project is located in the Town of Warren NH over the Baker River on NH 118. The proposed project consists of bank stabilization caused by the October 2017 storm/ State of Emergency. Impacts to Shoreland jurisdiction are associated with the bank stabilization, temporary road widening, and roadway reconstruction and repaving, and access to the river's bank to facilitate construction in the area. All impacts are within existing ROW and/or construction easement areas.

Erosion and siltation controls will be installed prior to the start of work and will be maintained throughout the project, and will remain in place until all disturbed areas have been stabilized.

The impervious surface will not increase as a result of this project.

cc:
BOE
Town of Warren
Warren Conservation Commission



RSA/Rule: RSA 483-B, Env-Wq 1400

SHORELAND PERMIT APPLICATION

Water Division/ Shoreland Program Land Resources Management

Check the status of your application: www.des.nh.gov/onestop

Administrative Use Only	Administrative Use Only	Administrative Use Only	File Number:
			Check No.
			Amount:
			Initials:

This is an application for a permit to excavate, fill or construct new structures within the protected shoreland as regulated under RSA 483-B. For a complete list of activities that do not require a shoreland permit, view the shoreland program [frequently asked questions](#) (FAQs).

Please type or print clearly. **Please note:** Application packages missing required elements will be returned to the applicant in their entirety, including the fee. Land Resources Management will include a letter identifying the missing elements and describing how to resubmit the application package to NHDES. Application packages that are accepted will proceed to technical review to ensure the applicant has fulfilled all requirements as specified by statute or rules. For more information, visit the new [Land Resources Management Application Return Process](#) website located on the Shoreland Program page.

1. PROPERTY OWNER			
LAST NAME, FIRST NAME, M.I.: Grandmaison, Ronald			
ADDRESS: 7 Hazen Drive	TOWN/CITY: Concord	STATE: NH	ZIP CODE: 03302
PHONE: 603-271-6198	EMAIL: Ronald.Grandmaison@dot.nh.gov		
2. PROJECT LOCATION			
ADDRESS: NH 118	TOWN/CITY: Warren	STATE: NH	ZIP CODE: 03279
WATERBODY NAME: Baker River	TAX MAP: 0000	LOT NUMBER: 1000	
3. CONTRACTOR OR AGENT			
LAST NAME, FIRST NAME, M.I.:			
ADDRESS: 0000	TOWN/CITY: 0000	STATE: 0000	ZIP CODE: 0000
PHONE: 0000	EMAIL: 0000		
4. CRITERIA			
Please check at least one of the following below:			
<input checked="" type="checkbox"/> This shoreland permit application requires neither a proposal to make the property more nearly conforming nor a request for a waiver of a minimum standard.			
<input type="checkbox"/> This shoreland permit application includes a proposal to make the structures and/or the property <u>more nearly conforming</u> .			
<input type="checkbox"/> This shoreland permit application includes a <u>request for a waiver</u> of the following minimum standard(s) under RSA 483-B:9, V _____.			
5. PROJECT DESCRIPTION			
Total square feet of <u>impact area</u> within the <u>protected shoreland</u> : 29,208 Total square feet of new <u>impervious area</u> : 0000			
*To calculate total <u>impact area</u> , see Page 2, Section 10.			
Provide a complete description of the proposed project. Construction of a soil nail stabilized Class A stone slope to restore and armor eroded areas of embankment; as the project progresses downriver of the slope failure immediately adjacent to the roadway, the treatment will transition to Class A stone with a keyed toe, and then placement of boulders along a section of remaining vegetated eroded slope. (See attached document for more details).			

lrm@des.nh.gov or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

www.des.nh.gov

5. Project Description

The proposed work entails the construction of a soil nail stabilized Class A stone slope to restore and armor eroded areas of the embankment. As the project progresses downriver of the slope failure immediately adjacent to the roadway, the treatment will transition to just Class A stone with a keyed toe, and then to placement of boulders along a section of remaining vegetated eroded slope. District forces will replace a failing 18" cmp with a 24" cmp. The roadway will be reconstructed and repaved, with guardrail reinstalled at the top of embankment. The stone armoring and culvert replacement impacts falls within wetland jurisdiction and will be permitted under a NHDES Wetlands Bureau Standard Dredge and Fill permit. The Contractor shall submit a stormwater pollution prevention plan specific to this project to the NHDOT prior to the commencement of work.

The site area shown in the Shoreland Plans incorporates all planned work and required area for construction staging and access; of this area there is 15291 square feet of shoreland impact between the Reference and WB50, and 13617 square feet of shoreland impact between WB50 and WB 150.

As a result of recent storm events there are very few trees remaining along these scoured sections of the Baker River's bank while the remaining shoreland buffer area is primarily developed properties with grass or garden landscapes, roadway, and or ditch lines. On the south side of the road where the temporary widening will be constructed the roadside drainage consists of either paved sluices or gravel channels; therefore it is anticipated that the existing conditions do not require tree clearing in order to allow for the proposed work to be conducted. The armored slope work falls within a permanent slope easement (see label on plan), while the remainder of the outlined construction area on the labeled Kirkpatrick, James T. & Maryellen M. property will fall within a temporary construction easement (see label on plan). Prior to construction the one story home and concrete foundation slab will be removed and relocated from the parcel by the homeowner. If tree clearing is needed by the contractor for access through the wooded area to the west of the one story house the contractor will replace/replant within the same area that the trees were removed in order to restore that existing buffer area. The majority of the temporary construction easement is grassy landscape and will be restored back to grass. If tree clearing is needed by the contractor along the bank within the permanent construction easement the trees will not be replaced as they pose a threat to the bank stability and fall within permanent ownership of the DOT and public access way. The project limits and area of impacts within the 250ft buffer of the Baker River have been minimized as much as possible, however the primary structure through the project area is a Public Access Roadway that is currently impervious (7,150 sq. ft.) and will remain impervious (7,150 sq ft) after the work is complete. There is a net decrease in impervious area within the 250ft buffer, due to the house and concrete slab being removed. Stormwater runoff will continue to flow and discharge in the same manner it does today. During construction Best Management Practices will be used to protect the resources within and adjacent to the project area.

6. RELATED NHDES LAND RESOURCES MANAGEMENT PERMIT APPLICATIONS ASSOCIATED WITH THIS PROJECT:

Please indicate if any of the following permit applications are required and, if required, the status of the application.

To determine if other Land Resources Management permits are required, refer to the [Land Resources Management Web Page](#).

Permit Type	Permit Required	File Number	Permit Application Status
Alteration of Terrain Permit Per RSA 485-A:17	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Individual Sewerage Disposal per RSA 485-A:2	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Subdivision Approval Per RSA 485-A	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Wetlands Permit Per RSA 482-A	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	2018-02468 _____	<input type="checkbox"/> APPROVED <input checked="" type="checkbox"/> PENDING <input type="checkbox"/> DENIED

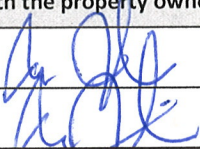
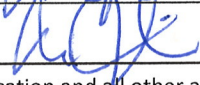
7. REFERENCE LINE ELEVATION (REQUIRED FOR LAKES, PONDS AND ARTIFICIAL IMPOUNDMENTS)Reference line elevations for most lakes, ponds and artificial impoundments greater than 10 acres in size are listed in the [Consolidated List of Waterbodies Subject to the Shoreland Water Quality Protection Act](#). Please see RSA 483-B:4, xvii for the definition of reference line.The reference line for this waterbody is 1064 feet above sea level.**8. SHORELAND FRONTAGE** Shoreland frontage is the actual frontage along the waterfront measured at the reference line.The shoreland frontage on this lot is :406 linear feet.☐ N/A – No direct frontage on this lot**9. APPLICATION FEE**A non-refundable permit application fee of \$100 plus \$0.10 per total square feet is required at the time the application is submitted. Fees are capped at \$750 for projects impacting less than 10,000 sq ft, \$1,875 for projects impacting between 10,000 and less than 25,000 sq ft, and \$3,750 for projects impacting 25,000 sq ft and greater. Please note that your application will not be considered complete if it does not include the appropriate fee. **Please make checks payable to the Treasurer, State of NH.****10. CALCULATING THE TOTAL IMPACT AREA AND PERMIT APPLICATION FEE**

Total impact area is calculated by determining the sum of all areas disturbed by regrading, excavation, filling, construction and structure removal. Impacts often include, but are not limited to: constructing new driveways, constructing new structures, areas disturbed when installing septic systems and foundations, creating temporary access roads to drill a new well and regrading associated with landscaping activities.

Total Area Impacted within 250 feet of the reference line. = 29,208 (A) square feetMultiply the Total Impact Area By \$0.10 and add \$100. [(A) X .10 + \$100] = \$ EXEMPT Permit Fee**11. REQUIRED CERTIFICATIONS**

By initialing within the blank before each of the following statements, and signing below, you are certifying that: to the best of my knowledge, the information provided is true, complete and not misleading.

☒ I understand that any permit or waiver granted based on false, incomplete, or misleading information shall be subject to revocation.☒ I am aware that obtaining a shoreland permit will not exempt the work I am proposing from other state, local or federal approvals.☒ I have notified the municipality or municipalities in which the proposed impacts are located and provided them with a complete copy of the application and all supporting materials on 8/20/18 via certified mail.☐ This project is within ¼ mile of a designated river (river name: _____) and I have notified the Local River Management Advisory Committee by providing them with a copy of the complete application, including all supporting materials, via certified mail on day: ____ month: ____ year: ____ and I have included a copy of the certified mail receipt in the application submittal (RSA 483-B:5-b, IV-a).☒ This project is **not** within ¼ mile of a designated river.☒ I have notified all abutters of the proposed impacts via certified mail as required by RSA 483-B:5-b, IV-a. (see definition of "abutter" on page (6)).**12. SIGNATURES (Both the property owner, and applicant must sign the application form per Env-Wq 1406.08)**

OWNER NAME		PRINT NAME LEGIBLY: <u>RONALD GRANDMAISON</u>	DATE: <u>8/20/2018</u>
APPLICANT NAME		PRINT NAME LEGIBLY: <u>RONALD GRANDMAISON</u>	DATE: <u>8/20/2018</u>

Please mail this application and all other attachments to the NHDES Wetlands Bureau, PO Box 95, Concord NH 03302-0095. Missing information will delay processing your permit application and may result in denial of a Shoreland Permit.

lrm@des.nh.gov or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

www.des.nh.gov

For the purposes of this worksheet, “**Pre-Construction**” impervious surface areas¹ means all human made impervious surfaces² currently in existence on the property, whether to be removed or to remain after the project is completed. “**Post-Construction**” impervious area means all impervious surfaces that will exist on the property upon completion of the project, including both new and any remaining pre-existing impervious surfaces. All answers shall be given in square feet.

CALCULATING IMPERVIOUS AREA WITHIN 250 FEET OF THE REFERENCE LINE			
	STRUCTURE DESCRIPTION	PRE-CONSTRUCTION IMPERVIOUS AREA	POST-CONSTRUCTION IMPERVIOUS AREA
PRIMARY STRUCTURE			
Include all <u>attached</u> decks and porches.	<u>Home</u>	<u>1550</u> FT ²	<u>0</u> FT ²
ACCESSORY STRUCTURES	<u>NH 118 Roadway</u>	<u>7,150</u> FT ²	<u>7,150</u> FT ²
All other impervious surfaces excluding lawn furniture, well heads and fences.	<u> </u>	<u> </u> FT ²	<u> </u> FT ²
Common accessory structures include, but are not limited to: driveways, walkways, patios and sheds.	<u> </u>	<u> </u> FT ²	<u> </u> FT ²
	<u> </u>	<u> </u> FT ²	<u> </u> FT ²
	<u> </u>	<u> </u> FT ²	<u> </u> FT ²
	<u> </u>	<u> </u> FT ²	<u> </u> FT ²
TOTAL:		(A) <u>8,700</u> FT²	(B) <u>7,150</u> FT²
Area of the lot located within 250 feet of reference line:			(C) <u>29,208</u> FT²
Percentage of lot covered by pre-construction impervious area within 250 feet of the reference line: <i>[divide (a) by (c) x 100]</i>			(D) <u>29.8</u> %
Percentage of lot to be covered by post-construction impervious area within 250 feet of the reference line upon completion of the project: <i>[divide (b) by (c) x 100]</i>			(E) <u>24.4</u> %

² **“Impervious Surface”** as defined in RSA 483-B:4, VII-b means any modified surface that cannot effectively absorb or infiltrate water. Examples of impervious surfaces include, but are not limited to, roofs, and unless designed to effectively absorb or infiltrate water, decks, patios, and paved, gravel, or crushed stone driveways, parking areas and walkways.

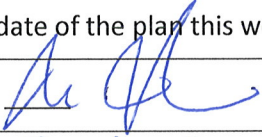
IMPERVIOUS AREA THRESHOLDS

DETERMINING the STORMWATER MANAGEMENT REQUIREMENTS

<input type="checkbox"/>	<p>The percentage of post-construction impervious area (Calculation E) is less than or equal to 20%.</p> <p>This project does not require a stormwater management plan and does not require a plan demonstrating that each waterfront buffer grid segment at least meets the minimum required tree and sapling point score.</p>
<input type="checkbox"/>	<p>A net increase in impervious area is proposed and the percentage of post-construction impervious area (Calculation E) is greater than 20%, but less than 30%.</p> <p>This project requires a stormwater management but, does not require a plan demonstrating that each waterfront buffer grid segment at least meets the minimum required tree and sapling point score.</p> <p>See details on the <i>Checklist of Required Items</i> on page 6</p>
<input type="checkbox"/>	<p>A net increase in impervious area is proposed and the percentage of post-construction impervious area (Calculation E) is greater than 30%.</p> <p>This project requires a stormwater management plan be designed and certified by a professional engineer and requires plans demonstrating that each waterfront buffer grid segment at least meets the minimum required tree and sapling point score.</p> <p>See details on the <i>Checklist of Required Items</i> on page 6</p>

NATURAL WOODLAND AREA REQUIREMENT

DETERMINING THE AREA TO REMAIN AS NATURAL WOODLAND

Total area of the lot between 50 ft and 150 ft of the reference line within which the vegetation currently exists as natural woodlands ³ (see definition below).	(F) <u>1050 SF</u>
Total area of the lot between 50 ft and 150 ft from the <u>reference line</u> .	(G) <u>13916 SF</u>
At least 25% of area (G) must remain in as natural woodland. [.25 x G]	(H) <u>3479 SF</u>
Place the lesser of area (F) and calculation (H) on this line. In order to remain compliant with the natural woodland area requirement , this is the minimum area that must remain as natural woodland between 50 ft and 150 ft from the <u>reference line</u> . This area must be represented on all plans and this area, exclusive of existing lawn, must remain in an unaltered state ⁴ .	(I) <u>1050 SF</u>
Name of person who prepared this worksheet: <u>Hans Weber</u>	
Name and date of the plan this worksheet is based upon: <u>Shr. Impact Plans</u>	
SIGNATURE: 	DATE: <u>8/20/2018</u>

RONALD GRANOMAISSON

³ "Natural Woodland" means a forested area consisting of various species of trees, saplings, shrubs, and ground covers in any combination and at any stage of growth.

⁴ "Unaltered State" means native vegetation allowed to grow without cutting, limbing, trimming, pruning, mowing, or other similar activities except as needed for renewal or to maintain or improve plant health.



Impact Areas A and B: 1 story building immediately adjacent to Baker River
Home will be moved prior to construction and entire parcel available for access.



Forested area to the west of 1 story home within Woodland Buffer of the Baker River



Impact Area A & B at the western limit of the stabilization work – grassy lawn, gardens, and some trees boarder the 1 story home adjacent to the Baker River (facing east)



Impact Area A & B along the slope failure immediately adjacent to NH 118 (facing west)



Eastern most end of the project near Breezy Point Road (facing west)



Impact Areas A & B – Representative area of Shoreland Buffer east of the bank scour

Vegetated banks along the Baker River, roadway, lawns & gardens, and homes (facing east)



Failed Slope – Facing Southwest Towards NH-118



Failed Slope – Facing South Towards NH-118



Failed Slope – Facing Southwest Towards NH-118



Failed Slope – Facing Southwest Towards NH-118



Western Limits of Impact Area A - Trees will remain/ NOT be disturbed along this stretch of bank - stabilization rock work at the toe of slope



Impact Area C : 18" CMP failure / scoured bank – No tree removal is needed



Impact Area C: Inlet of 18" CMP fed by palustrine wetland and surrounded by grassy yard



Road and grass yard within Impact Area A & B

Barn is to the southwest of the 1 story home and will not be disturbed



Cabin to the west of the 1 Story Home – adjacent to western limit of impact area A & B



New Hampshire Natural Heritage Bureau

To: Rebecca Martin
7 Hazen Drive
PO Box 483
Concord, NH 03302

Date: 7/6/2018

From: NH Natural Heritage Bureau

Re: Review by NH Natural Heritage Bureau of request dated 7/6/2018

NHB File ID: NHB18-2100

Applicant: Rebecca Martin

Location: Tax Map(s)/Lot(s):
Warren

Project Description: 41738: The purpose of this project is to rehabilitate an existing sloped riverbank located adjacent and between NH 118 and the Baker River in Warren, NH. The riverbank and adjacent NH 118 experience significant erosion during a storm event between October 29 and November 1, 2017 (major disaster declaration on January 2, 2018). NH 118 is presently operating on two directional one way alternating traffic as a result of significant loss of the paved area during the storm. The need is to limit further riverbed erosion and deterioration of NH 118 and to return NH 118 to a serviceability level comparable to that prior to the storm. Preferred action is to construct an approximately 4'-7' tall retaining wall with a 1.5H:1V Stone lined backslope to be located between the Baker River and NH 118. The retaining wall will likely be located at or near the existing shoreline and will be dowelled into existing bedrock and will be approximately 150' in length, with approximately 50' sections of stone lined slope both upgradient and downgradient of the wall location. The wall will be constructed using small to medium sized tracked excavators located at the toe of the eroded slope extending into the shoreline, in addition to other construction equipment from the top of the slope (adjacent to NH 118).

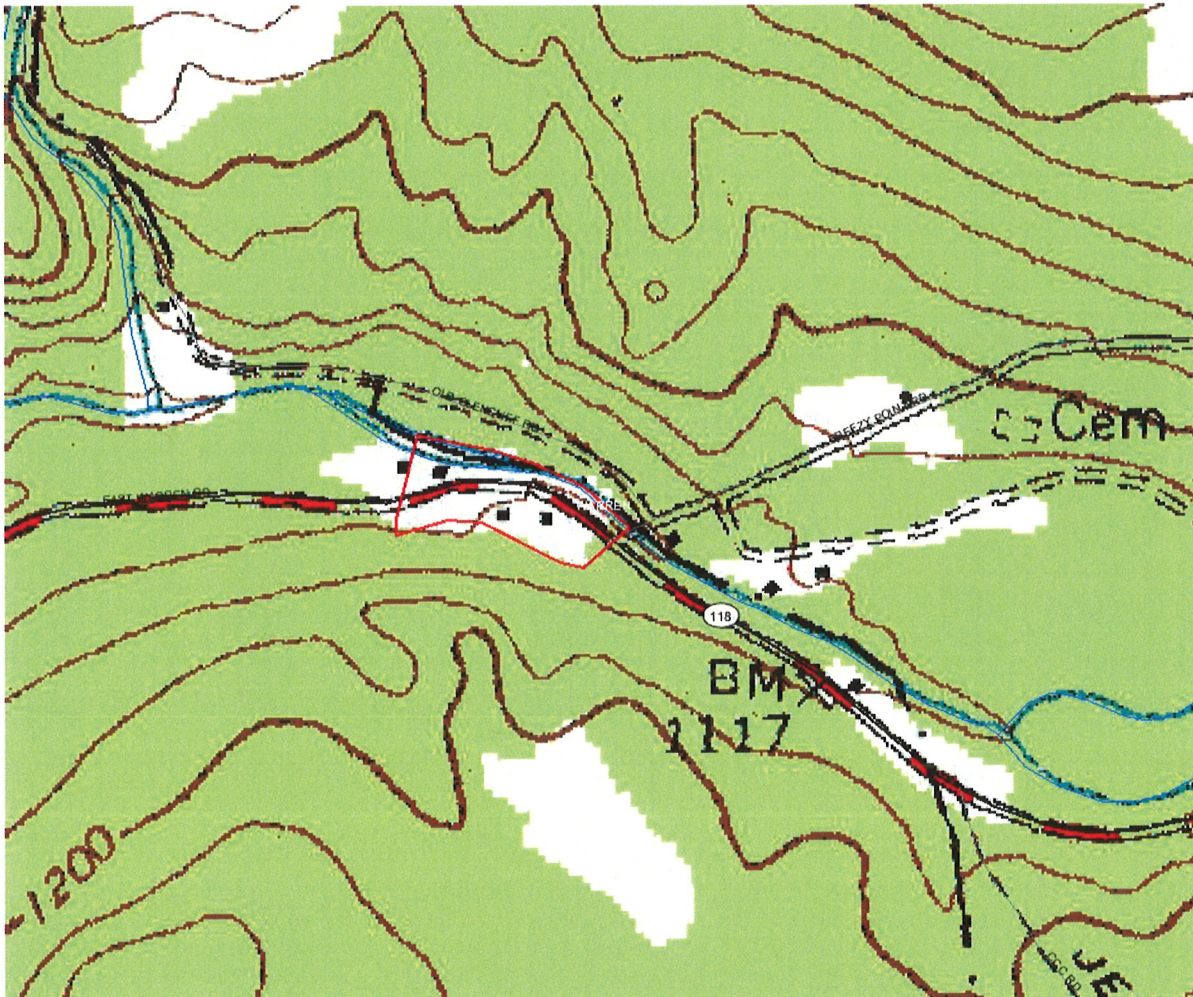
The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

This report is valid through 7/5/2019.



MAP OF PROJECT BOUNDARIES FOR NHB FILE ID: NHB18-2100

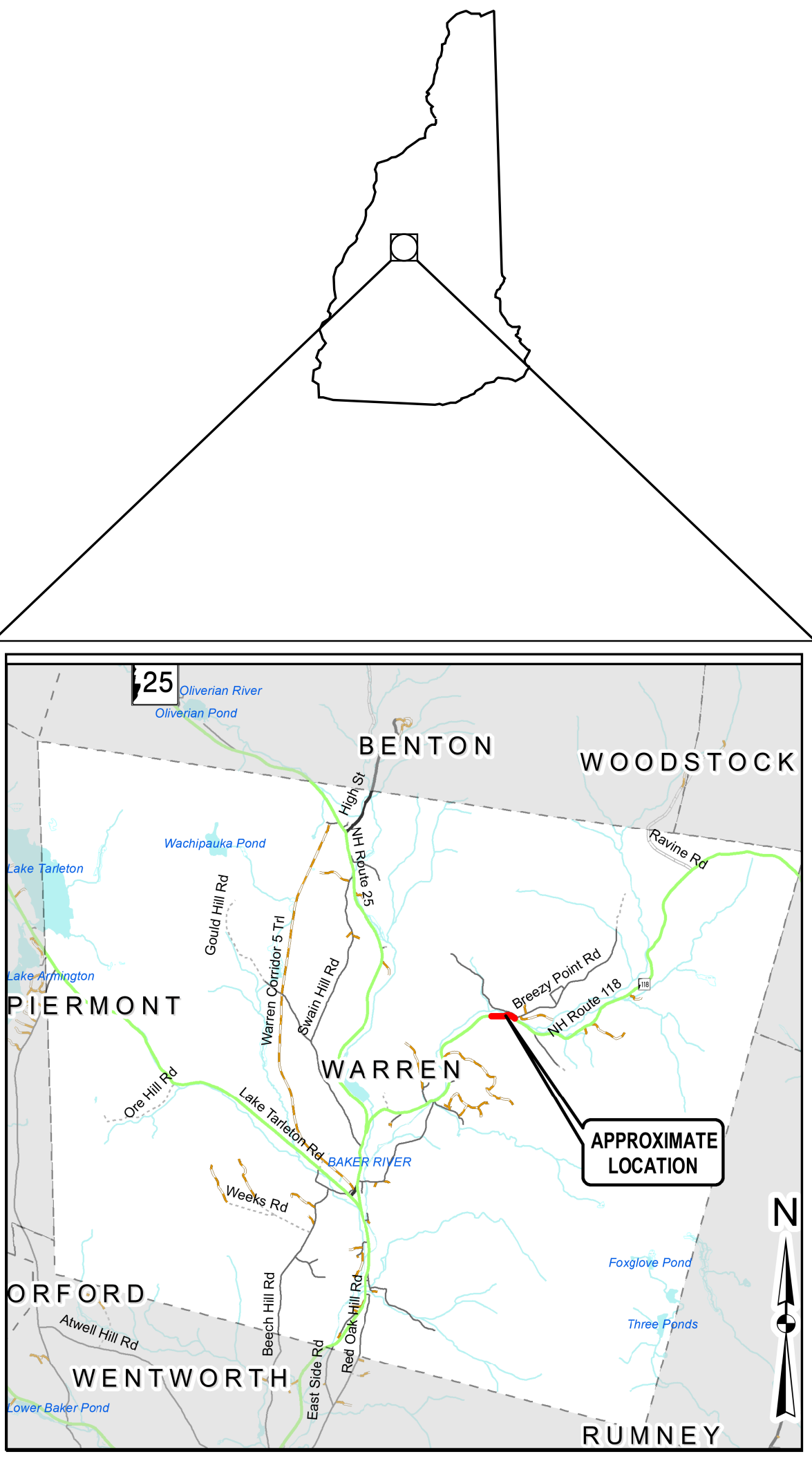


STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION
SHORELAND IMPACT PLANS
FEDERAL AID PROJECT

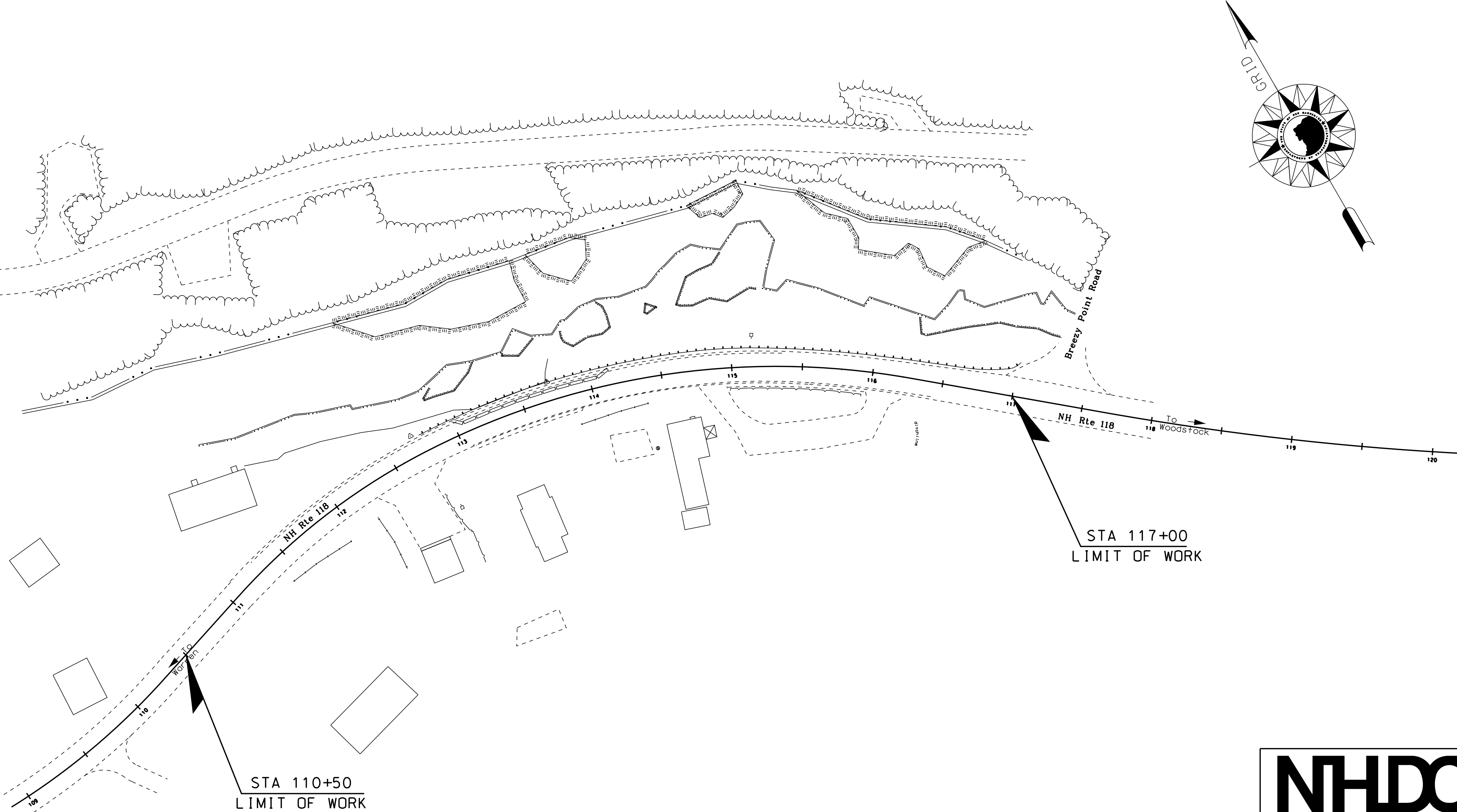
X-A004(728)
N.H. PROJECT NO. 41738
NH ROUTE 118

DESIGN DATA

AVERAGE DAILY TRAFFIC 20_13	680
AVERAGE DAILY TRAFFIC 20_17	545
PERCENT OF TRUCKS	UNKNOWN
DESIGN SPEED	40
LENGTH OF PROJECT	0.15 MILES



LOCATION MAP



TOWN OF WARREN

COUNTY OF GRAFTON

SCALE: 1" = 50'

FOR CONSTRUCTION AND ALIGNMENT DETAILS - SEE CONSTRUCTION PLANS

NH DOT THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION				
RECOMMENDED FOR APPROVAL:				
_____ DIRECTOR OF PROJECT DEVELOPMENT		_____ DATE		
APPROVED:				
_____ ASSISTANT COMMISSIONER AND CHIEF ENGINEER		_____ DATE		
DRAWING NAME	FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41738FSS	X-A004(728)	41738	1	5

DRAWN BY HSW
CHECKED BY JDF
DATE 8/8/18
DATE 8/13/18

INDEX OF SHEETS

- 1 FRONT SHEET
- 2-3 STANDARD SYMBOLS SHEETS
- 4-5 SHORELAND IMPACT PLANS

GENERAL

EDGE OF PAVEMENT			
TRAVELED WAY			
DRIVEWAYS			
BUILDINGS			
FOUNDATION			
LEACH FIELD			
BRIDGE CROSSINGS			
STEPS AND WALK			
INTERMITTENT WATER COURSE			
SHORE LINE			
POTENTIAL WET AREA SYMBOL			
BRUSH OR WOODS LINE			
TREES (PLANS)			
TREE OR STUMP (CROSS-SECTIONS)			
HEDGE			
MONITORING WELL			
WELL			
FLAG POLE			

ORIGINAL GROUND (TYPICALS)	
ROCK OUTCROP	
ROCK LINE (TYPICALS & SECTIONS ONLY)	
GUARDRAIL (label type)	
JERSEY BARRIER	
CURB (LABEL TYPE)	
STONE WALL	
RETAINING WALL (LABEL TYPE)	
FENCE (LABEL TYPE)	
SIGNS	
GAS PUMP	
FUEL TANK (ABOVE GROUND)	
STORAGE TANK FILLER CAP	
SEPTIC TANK	
GRAVE	
MAILBOX	
VENT PIPE	
SATELLITE DISH ANTENNA	
PHONE	
GROUND LIGHT/LAMP POST	
BORING LOCATION	
TEST PIT	
INTERSTATE NUMBERED HIGHWAY	
UNITED STATES NUMBERED HIGHWAY	
STATE NUMBERED HIGHWAY	

SHORELAND - WETLAND

WETLAND DESIGNATION AND TYPE	
DELINEATED WETLAND	
ORDINARY HIGH WATER	
TOP OF BANK	
TOP OF BANK & ORDINARY HIGH WATER	
NORMAL HIGH WATER	
WIDTH AT BANK FULL	
PRIME WETLAND	
PRIME WETLAND 100' BUFFER	
NON-JURISDICTIONAL DRAINAGE AREA	
COWARDIN DISTINCTION LINE	
TIDAL BUFFER ZONE	
DEVELOPED TIDAL BUFFER ZONE	
HIGHEST OBSERVABLE TIDE LINE	
MEAN HIGH WATER	
MEAN LOW WATER	
VERNAL POOL	
SPECIAL AQUATIC SITE	
REFERENCE LINE	
WATER FRONT BUFFER	
NATURAL WOODLAND BUFFER	
PROTECTED SHORELAND	
INVASIVE SPECIES LABEL	
INVASIVE SPECIES	

FLOODPLAIN / FLOODWAY

500 YEAR FLOODPLAIN BOUNDARY	
100 YEAR FLOODPLAIN BOUNDARY	
FLOODWAY	

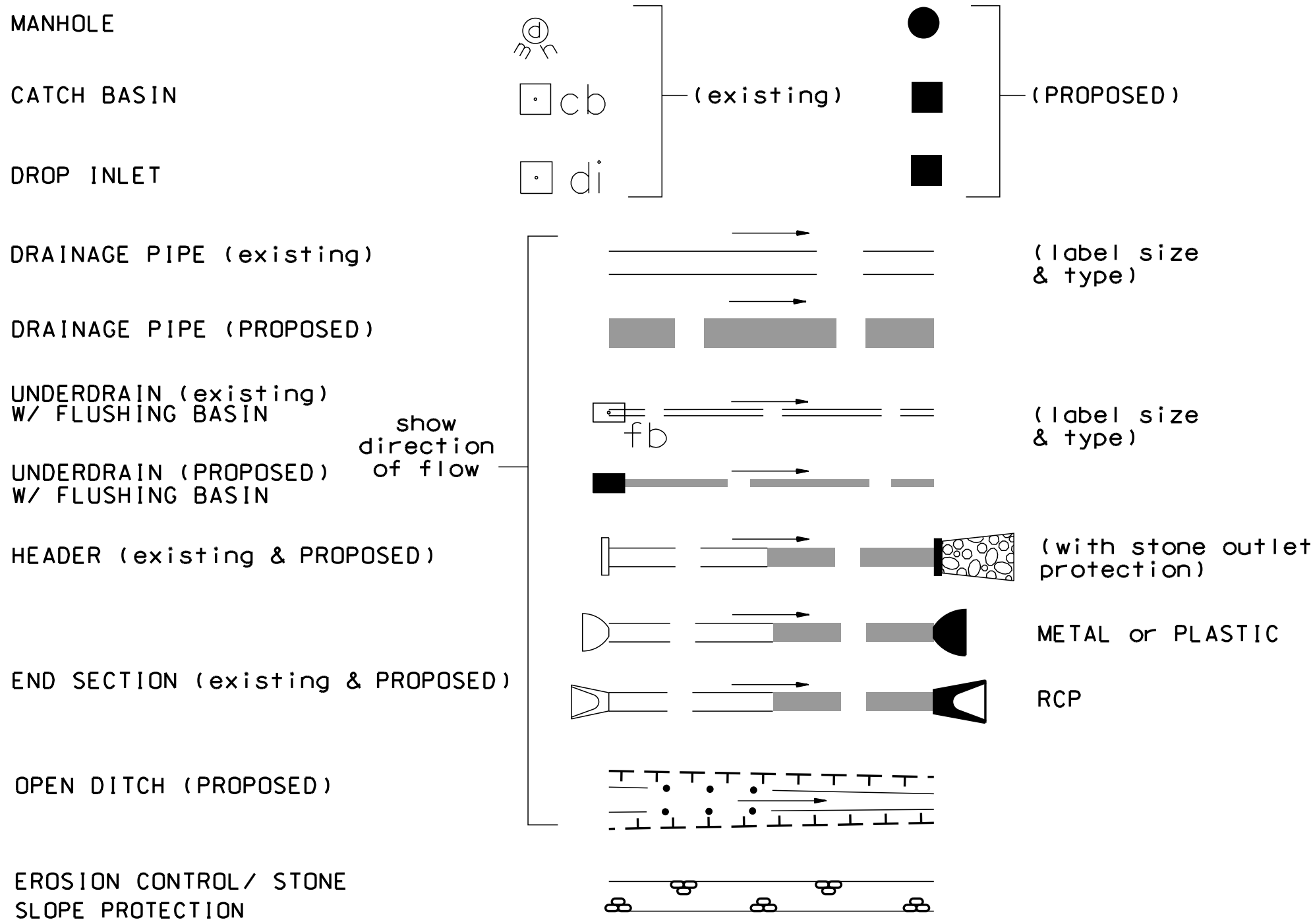
ENGINEERING

CONSTRUCTION BASELINE	
PC, PT, POT (ON CONST BASELINE)	
PI (IN CONSTRUCTION BASELINES)	
INTERSECTION OR EQUATION OF TWO LINES	
ORIGINAL GROUND LINE (PROFILES AND CROSS-SECTIONS)	
PROFILE GRADE LINE (PROFILES AND CROSS-SECTIONS)	
CLEARING LINE	
SLOPE LINE	
SLOPE LINE (FILL)	
SLOPE LINE (CUT)	
PROFILES AND CROSS SECTIONS:	
ORIGINAL GROUND ELEVATION (LEFT)	
FINISHED GRADE ELEVATION (RIGHT)	

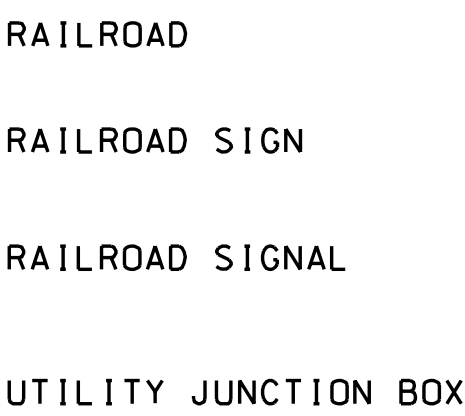
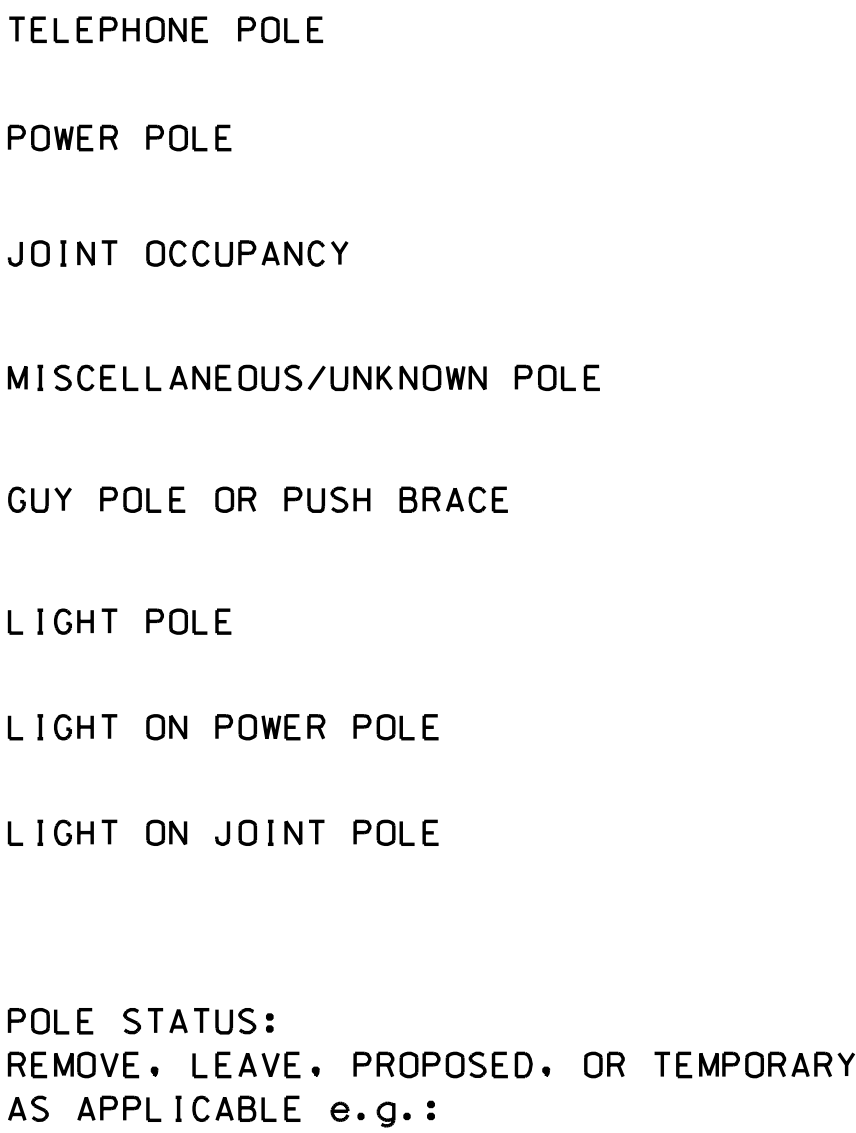
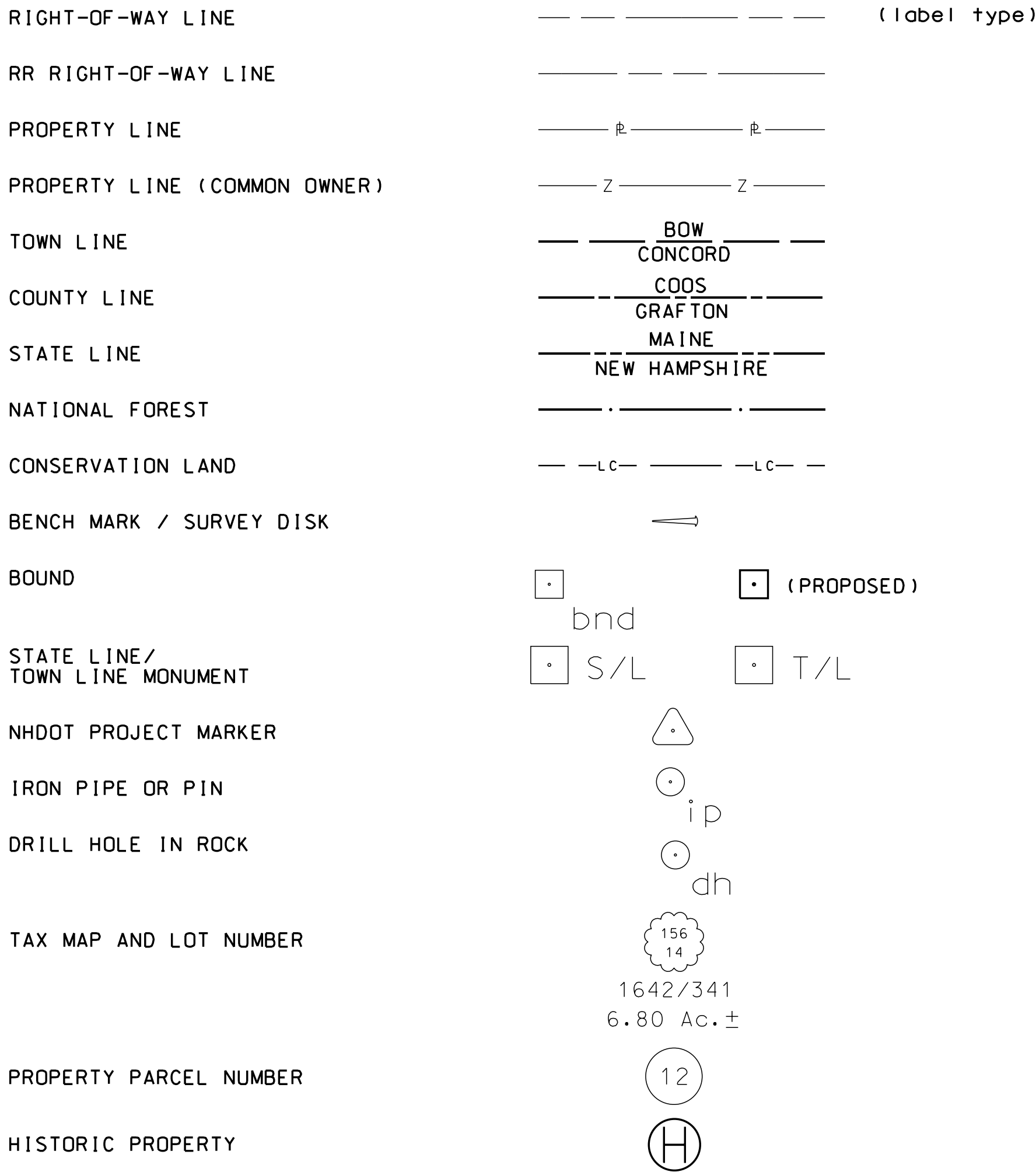
SHEET 1 OF 2

STATE OF NEW HAMPSHIRE				
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN				
STANDARD SYMBOLS				
REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
11-21-2014	41738s+dsymb1_2	41738	2	5

DRAINAGE



BOUNDARIES / RIGHT-OF-WAY



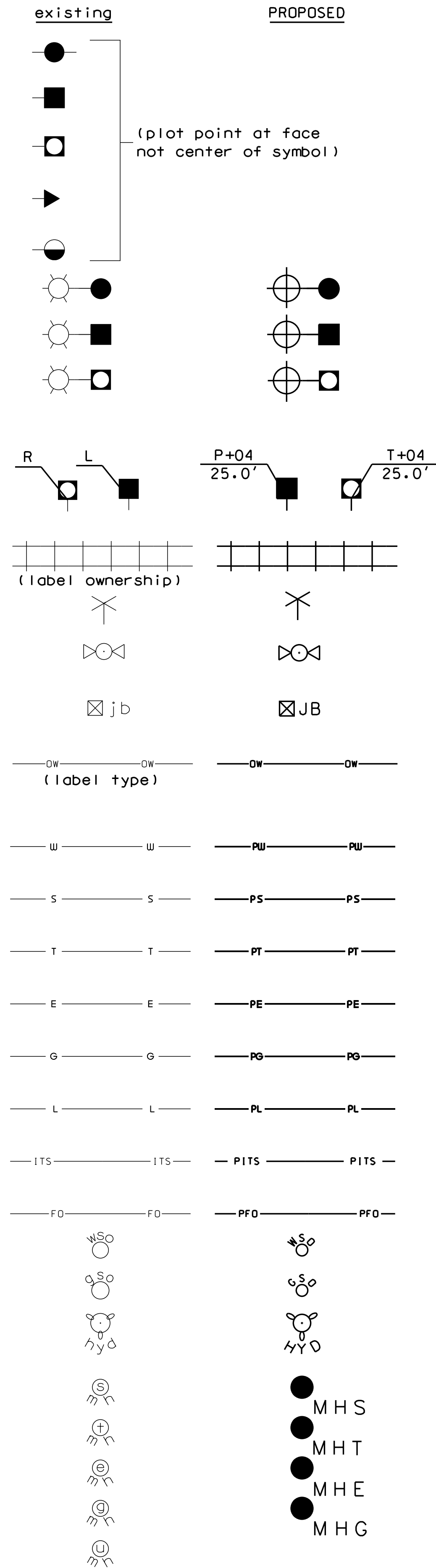
UNDERGROUND UTILITIES



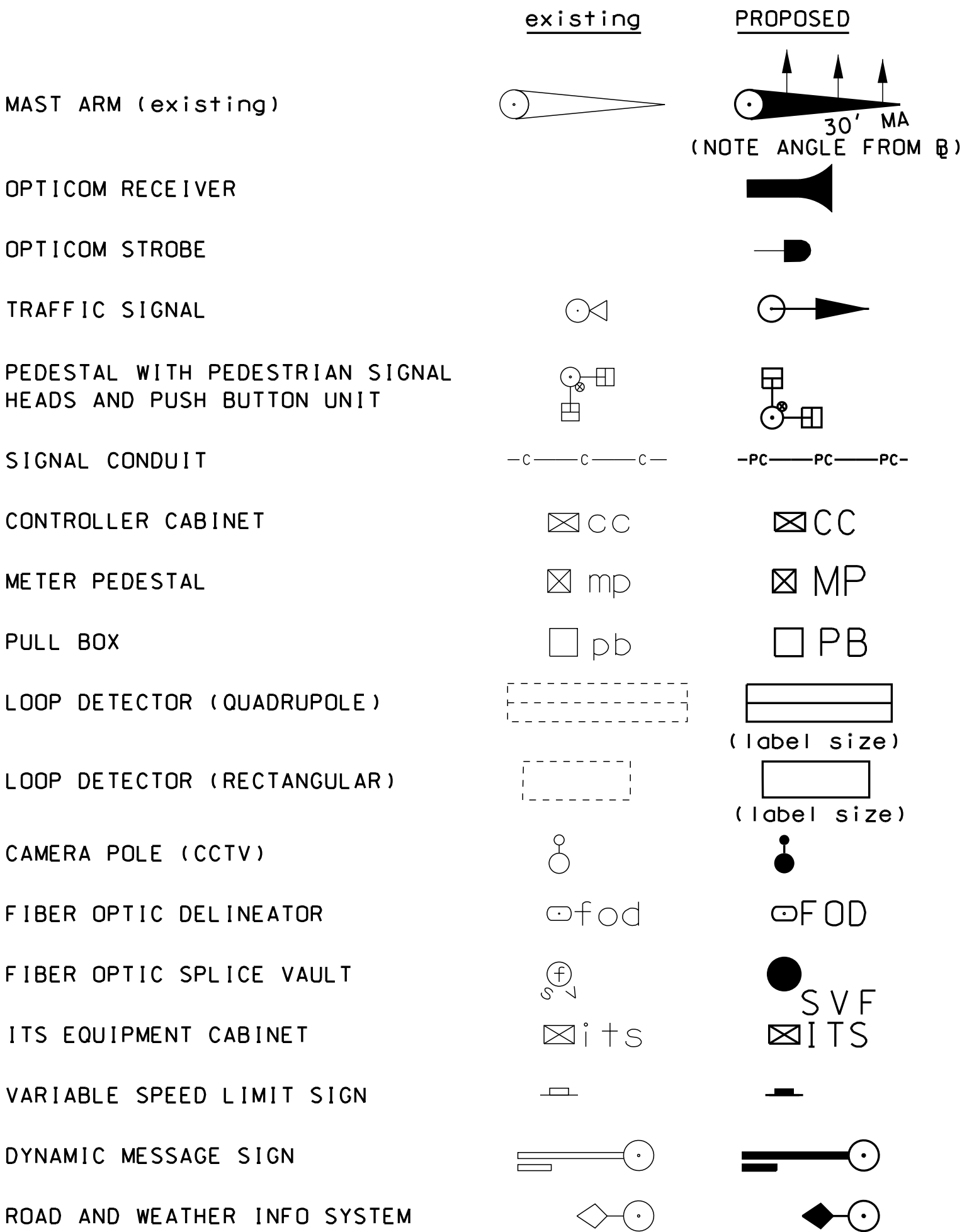
MANHOLES



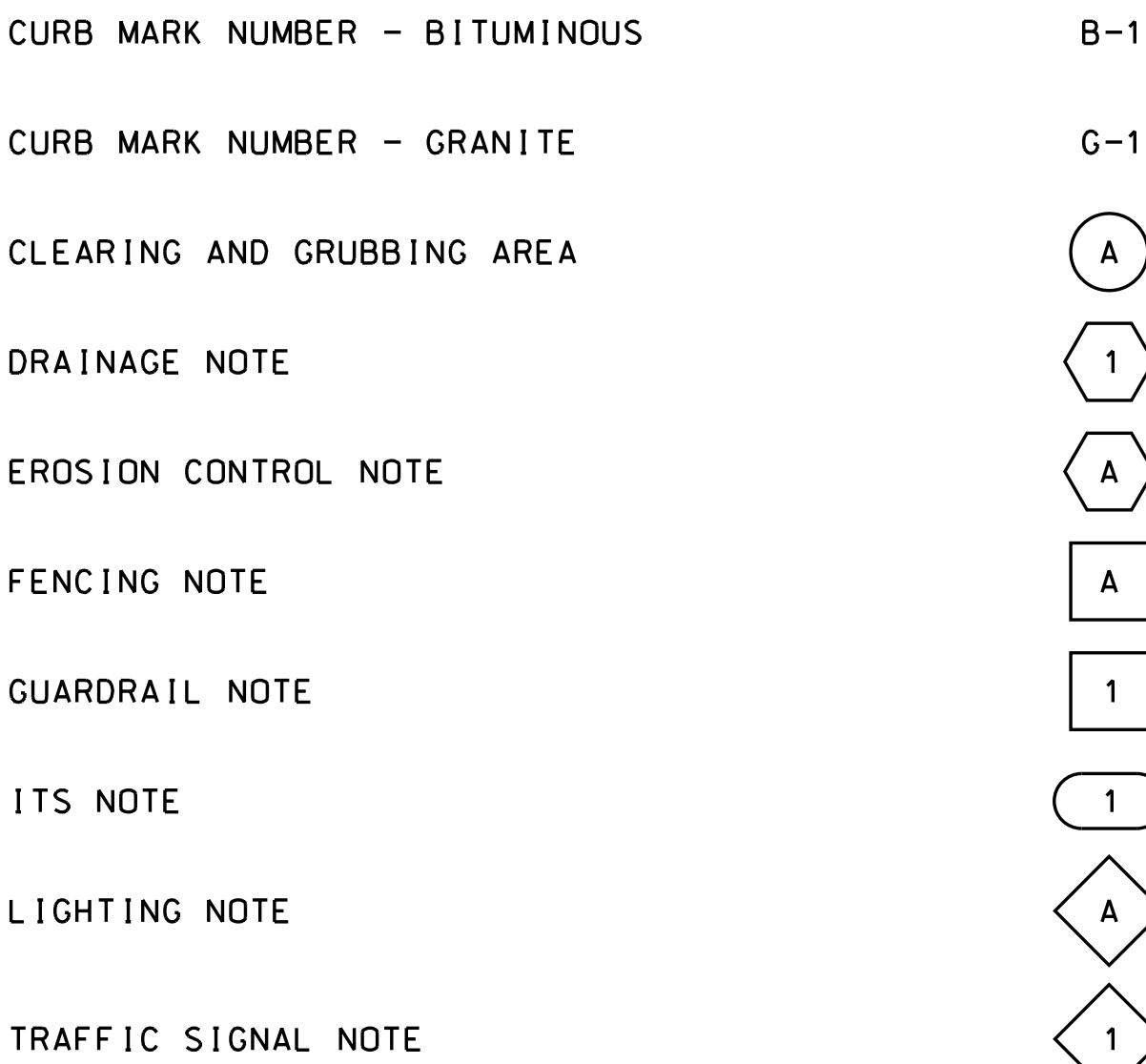
UTILITIES



TRAFFIC SIGNALS / ITS

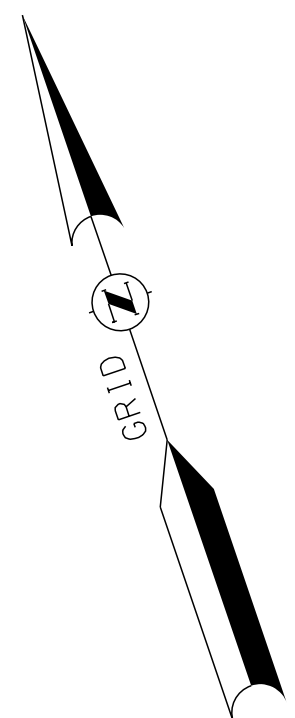


CONSTRUCTION NOTES



SHEET 2 OF 2

STATE OF NEW HAMPSHIRE				
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN				
STANDARD SYMBOLS				
REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
9-1-2016	41738s+dsymb1_2	41738	3	5



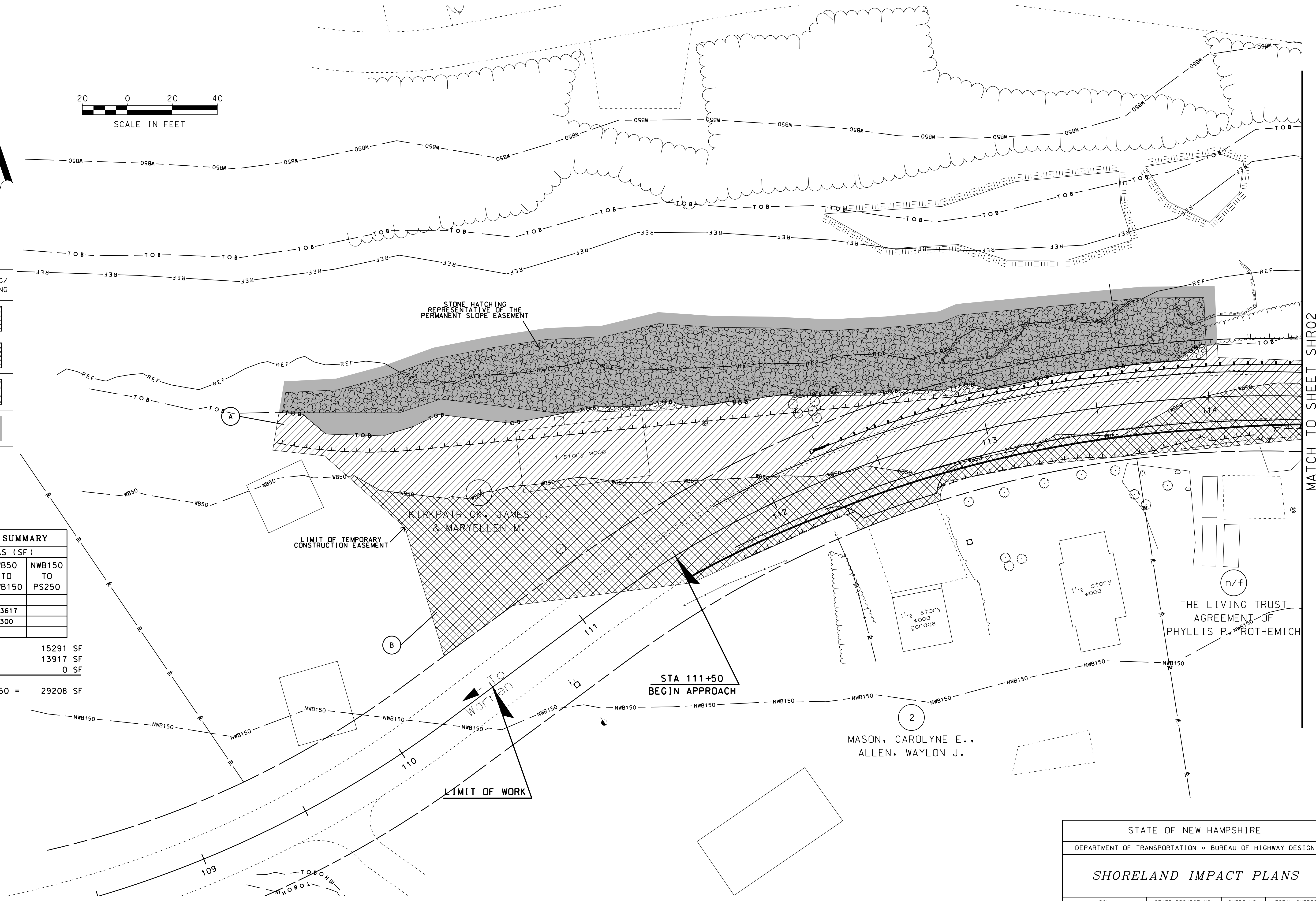
LEGEND

(X) SHORELAND IMPACT LOCATION

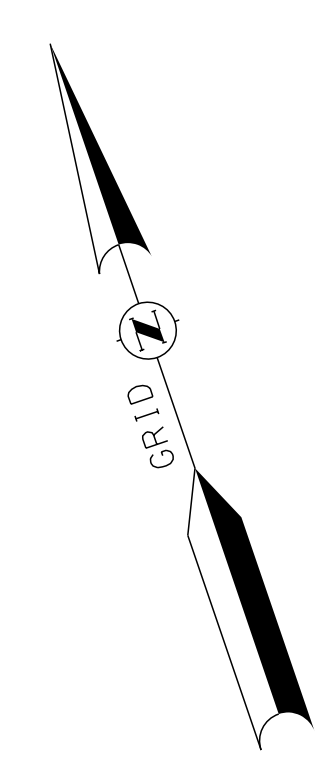
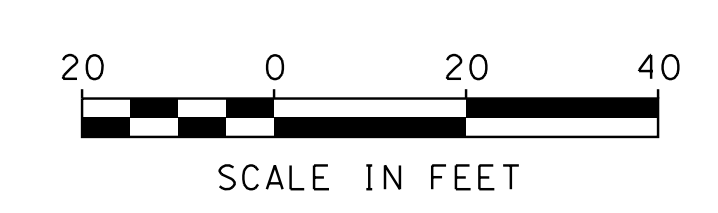
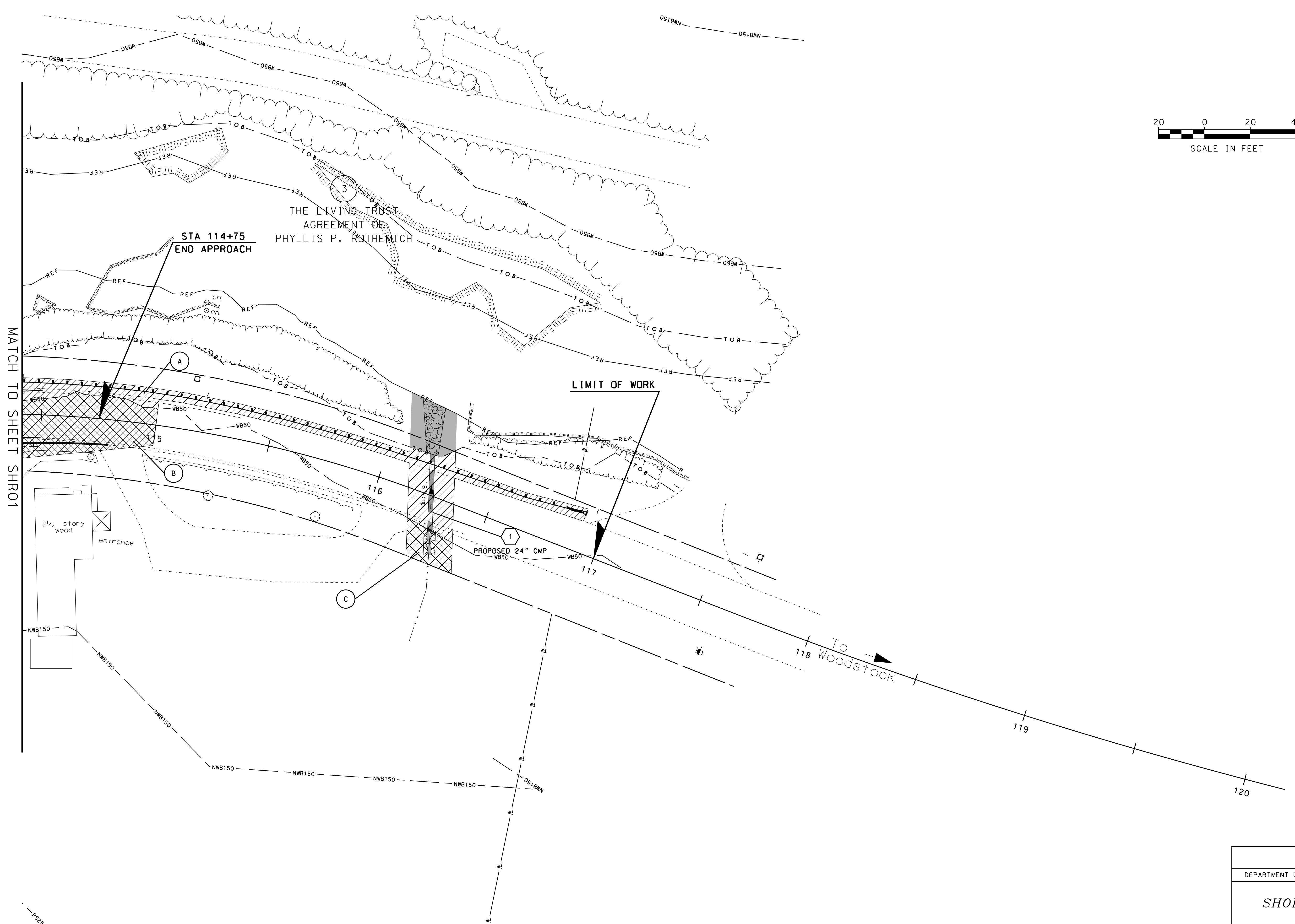
TYPE OF SHORELAND IMPACT	SHADING/HATCHING
REF TO WB50	
WB50 TO NWB150	
NWB150 TO PS250	
WETLANDS JURISDICTION IMPACT	

SHORELAND IMPACT SUMMARY			
LOCATION	AREAS (SF)		
	REF TO WB50	WB50 TO NWB150	NWB150 TO PS250
A	15291		
B		13617	
C		300	

TOTAL REF TO WB50 = 15291 SF
TOTAL WB50 TO NWB150 = 13917 SF
TOTAL NWB150 TO PS250 = 0 SF
TOTAL IMPACTS REF TO PS250 = 29208 SF



STATE OF NEW HAMPSHIRE			
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN			
SHORELAND IMPACT PLANS			
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41738shoreplans	41738	4	5



STATE OF NEW HAMPSHIRE			
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN			
<i>SHORELAND IMPACT PLANS</i>			
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
41738shoreplans	41738	5	5